BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2007-358-E

In re: Application of Duke Energy Carolinas, LLC For Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs	))))))	**REBUTTAL TESTIMONY OF THEODORE E. SCHULTZ FOR DUKE ENERGY CAROLINAS**

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Q. PLEASE STATE YOUR NAME, ADDRESS, AND POSITION WITH DUKE ENERGY.

A. My name is Theodore E. Schultz, and my business address is 526 South Church Street, Charlotte, North Carolina. I am Vice President – Energy Efficiency for Duke Energy Corporation the parent of Duke Energy Carolinas, LLC ("Duke Energy Carolinas" or the "Company").

Q. HAVE YOU PREVIOUSLY FILED DIRECT TESTIMONY IN SUPPORT OF DUKE ENERGY CAROLINAS' APPLICATION IN THIS DOCKET?

A. Yes, I have.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to several issues raised in the testimony of Thomas Skains for Piedmont Natural Gas Company Incorporated ("Piedmont") and Southern Environmental Law Center ("SELC"), Southern Alliance for Clean Energy ("SACE"), Coastal Conservation League ("CCL"), and Environmental Defense ("ED") (collectively, "SELC") Witnesses Gilligan, Nichols and Knapp concerning Duke Energy Carolinas' energy efficiency programs and program development. Among the issues I will respond to are: (1) Witness Nichols' selective use of the July 2006 *National Action Plan for Energy Efficiency*; (2) whether energy efficiency should include load management programs; (3) the Company's risk of not recovering program costs; (4) the importance of program flexibility to achieving long-term sustained results; (5) appropriate expectations for energy efficiency achievements in low cost states like

South Carolina; and (6) whether the Company's Application will promote fuel switching or unfair competition with natural gas utilities.

Q. DO YOU AGREE WITH WITNESS NICHOLS' ARGUMENT THAT THE TERM "ENERGY EFFICIENCY" SHOULD EXCLUDE DEMAND RESPONSE OR LOAD MANAGEMENT PROGRAMS?

A. No. According to the July 2006 *National Action Plan for Energy Efficiency* ("NAPEE"), which Mr. Nichols cites on page 15 of his testimony, energy efficiency is defined on page ES-12 of the report as follows:

> Energy efficiency refers to using less energy to provide the same or improved level of service to the energy consumer in an economically efficient way. The term energy efficiency as used here includes less energy at any time, including at times of demand through demand response and peak shaving efforts.

Duke Energy Carolinas believes this definition is consistent with our customers' view of energy efficiency. Our customers are looking for solutions that avoid or delay new generation and thereby achieve long-term sustainable efficiency gains. If we truly want higher levels of participation, we need to look at energy efficiency from a customer's perspective.

Q. ARE YOU AWARE OF ANY STATE COMMISSIONS THAT HAVE APPROVED INCENTIVES FOR LOAD MANAGEMENT PROGRAMS?

A. Yes. As Company Witness Hager states in her rebuttal testimony, South Carolina has approved incentives for load management programs and the Company booked shared savings rewards for 1992, 1993 and 1994. Additionally, North Carolina, Ohio and Kentucky offer rewards for load management programs. Duke Energy

Kentucky and Duke Energy Ohio both receive a shared savings incentive for load management programs today.

Q. WITNESS NICHOLS SUGGESTS THAT THE COMPANY IS NOT REALLY ASSUMING ANY MATERIAL RISK OF FAILING TO RECOVER ITS PROGRAM COSTS. DO YOU AGREE?

A. No. As Mr. Nichols points out in his testimony on page 13, lines 5-8, "[C]onservation programs depend on hard-to-predict success of marketing and outreach to customers, trade allies, and others. It is challenging for utilities to delivering efficiency in dynamic markets and to maximize the net benefits from conservation." This uncertainty surrounding customer participation is an appreciable risk, which Duke Energy Carolinas proposes to bear under its Energy Efficiency Plan. After all, customers must decide to prioritize and invest their time, effort and dollars to making efficiency improvements.

To address the challenges of getting customers to make energy efficiency a priority, Duke Energy Carolinas has been working with various stakeholder groups to design its programs to better suit customer needs. In fact, customer feedback led the Company to create a voluntary demand response option, which is included in the Company's Application. With the voluntary option, participation in demand response events will be at the discretion of our customers. This option is directly responsive to our customers' request; however, because it is not a firm resource where the utility determines participation in a demand response event, it is not considered by the Company for purposes of our Integrated Resource Plan ("IRP").

If the Company incurs program expenses, including marketing expenses, as planned, but only realizes 50% of our planned customer participation, the Company's earnings would be reduced by about 80%. Likewise, if the Company has to increase its expenses by 50% to achieve the planned customer participation level, the Company's earnings would be reduced by about 60%. Unlike the alternative recovery models suggested by SELC, Duke Energy Carolinas proposes to shift this risk from the customer to the Company.

Q. WHY ARE THE PROFIT FIGURES CITED BY WITNESS NICHOLS IN HIS EXHIBITS 2, 3 AND 4 MISLEADING?

A. There are several issues with Mr. Nichols exhibits besides the absence of the risk mentioned in my previous response. Duke Energy Carolinas is committing to all cost-effective energy efficiency, as defined by NAPEE. As Company Witness Stevie presents in his pre-filed direct testimony, we consider several cost-effectiveness tests in our program evaluation. For purposes of this discussion, the Company is defining cost-effective as programs where the avoided cost is greater than the total program costs. Mr. Nichols' Exhibits 2, 3 and 4 help to illustrate the importance of managing a portfolio of programs. The Company appears to go from making great profits on all programs in Exhibits 2 and 3 to losing money on all but the lowest cost conservation programs in Exhibit 4. The Company's approach requires one to step back and focus on the desired results of achieving *all* cost-effective energy efficiency. Cost-effective programs by definition are good for our customers. In order to achieve *all* cost-effective energy efficiency, the Company must take a portfolio management approach to programs. This is the only way to

ensure value is delivered to all our customers. If the Company can deliver value, it expects to be rewarded for doing so.

The profitability of the portfolio is hard-to-predict because it is dependent on the success of the Company's marketing efforts. The relative profitability of each individual program is represented by the utility test presented on page 30 of Dr. Stevie's pre-filed direct testimony. A score of 1.0 would represent a break-even program where avoided costs are equal to total program costs. Notice that the low income weatherization program with a score of 0.29 is shown as not being cost-effective. Yet, the Company believes this is an important program for utilities to offer. This is another illustration of the value of managing energy efficiency as a portfolio. Duke Energy Carolinas can address the special needs of a particular customer segment with a program that is not cost-effective.

Q. WHY IS PROGRAM FLEXIBILITY SO IMPORTANT TO THE SUCCESS OF SAVE-A-WATT?

A. Contrary to SELC Witness Nichols' assertion that the program flexibility sought by the Company is intended to allow it to manipulate its portfolio of energy efficiency programs to increase profits from demand-side programs, program flexibility is designed to enable the Company to deliver all cost-effective energy efficiency, which can, as described in the previous answer, be built into the Company's IRP. We agree that it is hard to predict the success of our marketing programs. As such, the Company needs to adjust product offerings, incentives and marketing tactics as we better understand customer needs relative to our offers.

In order to pursue all cost-effective energy efficiency, we must remove the artificial constraints imposed by traditional programs. For example, Duke Energy Kentucky has set spending limits by program in Kentucky. Our non-residential SmartSaver program was so popular that it became fully subscribed very soon after introduction. We obviously hit the mark with this particular program, but had to stop taking customer requests and had to work back through the collaborative and regulatory process to increase funding levels, which were not approved and implemented until a year later. With the uncertainty of marketing results, it is imperative that the Company have the ability to respond to what it learns in the market if it is to achieve the results planned and pursue all cost-effective energy efficiency.

Q. WITNESSES NICHOLS, ATKINS AND KNAPP ADVOCATE A RATE RECOVERY MECHANISM THAT BASES INCENTIVES TO UTILITIES FOR ENERGY EFFICIENCY ON PROGRAM COSTS. WHAT IS YOUR VIEW OF THIS APPROACH?

A. Simply put, incentives based on the percentage of program costs spent by a utility encourage spending, not results. Duke Energy Carolinas believes its Energy Efficiency Plan is superior to these models because customers only pay for verified results.

Q. PLEASE ADDRESS WITNESS NICHOLS' CRITICISM THAT DUKE ENERGY CAROLINAS' PROJECTED ENERGY EFFICIENCY RESULTS FALL SHORT OF INDUSTRY LEADERS.

A. In his testimony, Mr. Nichols cites a quote from the executive summary of NAPEE that well-designed energy conservation "programs are delivering annual energy savings on the order of 1 percent of electricity and natural gas sales." Nichols Direct Testimony, at 15, citing National Action Plan for Energy Efficiency (July 2006), at ES-4. However, if you read the full text on page 6-5 of NAPEE, you will find the following statement: "Consistently funded, well-designed efficiency programs are cutting electricity and natural gas load – providing annual savings for a given program year of 0.15 to 1 percent of energy sales." Duke Energy Carolinas projected energy efficiency results are clearly in line with this range.

Q. IS WITNESS NICHOLS' EXHIBIT 6 TRULY REPRESENTATIVE OF ENERGY EFFICIENCY ACHIEVEMENTS ACROSS THE COUNTRY?

A. No, it is not. Exhibit 6 lists eight entities that have achieved at least 1% of energy sales savings with energy efficiency. We applaud the leadership of these companies identified by Mr. Nichols and believe 1% of energy sales is a great aspirational leadership goal, if it can be obtained in a cost-effective manner. The puzzling question is why have only eight entities out of over 150 investor-owned electric utilities and 400 municipal utilities and cooperatives in this country achieved this leadership position. Duke Energy Carolinas respectfully suggests that there is simply more opportunity in high cost states with double digit average electric rates to achieve the percentage of sales results credited to the eight companies listed by Mr. Nichols in his Exhibit 6.

Q. ON PAGE 9 OF WITNESS GILLIGAN'S TESTIMONY HE CITES THE STATE OF NEW YORK AS HAVING AMONG THE MOST ADVANCED ENERGY EFFICIENCY PROGRAMS IN THE COUNTRY. DO YOU AGREE?

A. Yes, I would agree that New York has very experienced program administrators and solid energy efficiency programs. This is important because even with this experience, New York has only been able to achieve energy efficiency results of 0.2% of sales. National Action Plan for Energy Efficiency (July 2006), at 6-8, Table 6-3. This seems modest for a state with an average rate of 15.27 cents per kWh. By comparison, Duke Energy Carolinas is projecting results of approximately 0.25% of annual sales in a state with an average rate of 6.89 cents per kWh. I believe this comparison illustrates how impressive the energy efficiency achievements of save-a-watt are likely to be. It should also be noted that the Company's projection does not include the significant additional impacts we believe will be recognized as a result of the research programs we filed.

Q. HOW DO YOU RESPOND TO WITNESS NICHOLS' CLAIM THAT THE CONTRACTORS THE COMPANY WILL HIRE TO PERFORM THE MEASUREMENT AND VERIFICATION OF ITS PROGRAMS WOULD ONLY BE INDEPENDENT IN THE "NOMINAL SENSE?"

A. As stated in Company Witness Hall's direct testimony, the independent contractors hired by Duke Energy Carolinas to perform the measurement and verification of its energy efficiency programs will be selected through a competitive Request for Proposal process. Additionally, through the annual true-up of Rider EE (SC), the

Office of Regulatory Staff and the Commission will have the opportunity to "evaluate the evaluator," so to speak. The Company's plan for using independent contractors is consistent with the measurement and verification practices approved in numerous other jurisdictions, including Kentucky and Ohio, that offer shared savings incentives to utilities.

Q. SELC WITNESS GILLIGAN QUESTIONS THE SUSTAINABILITY OF DUKE ENERGY CAROLINAS' ENERGY EFFICIENCY PROGRAMS BECAUSE OF A PERCEIVED LACK OF TRANSPARENCY AND INPUT FROM STAKEHOLDERS. HOW DO YOU RESPOND TO THESE CRITICISMS?

A. As I stated in my direct testimony, the portfolio of energy efficiency programs included in the Company's Application represent many of the programs recommended to us by stakeholders during the collaborative process leading up to the filing of our Energy Efficiency Plan in September. These programs were also vetted against the market potential study commissioned by the Company and included as Exhibit B to Witness Gilligan's testimony. The process to develop our energy efficiency programs has been transparent and open and included substantial input from our customers. The only confidential information is that regarding the Company's avoided cost calculations used in the modeling of energy efficiency impacts. These values must remain confidential because Duke Energy Carolinas is frequently in the market for wholesale purchased power deals. However, the Company provided about 450 megabytes of detailed data down to the individual measure in response to data requests and will continue to make that information

available to parties in the annual regulatory review of Rider EE (SC) in this docket pursuant to an appropriate Confidentiality Agreement.

In addition, we will seek approval of a custom measure in the non-residential Smart$aver program which provides an opportunity to develop offers for industrial and commercial customers that combine multiple energy conservation and demand response measures. It also provides an opportunity to evaluate the great ideas our customers have to become more efficient that do not fit into a prescriptive measure. A custom approach to program design is important to pursuing all cost-effective energy efficiency.

Further, the annual regulatory review of Rider EE (SC) will afford an opportunity for parties to review the Company's energy efficiency program portfolio and suggest additions or revisions to programs, as appropriate. The Company welcomes all cost-effective program ideas.

Q. HOW DO YOU RESPOND TO WITNESS KNAPP'S CONCERN THAT SMALL BUSINESS CUSTOMERS MAY NOT HAVE THE SAME OPPORTUNITY TO CONSERVE ENERGY AS OTHER CUSTOMER CLASSES?

A. Small business customers are perhaps the most challenging segment of customers to reach with energy efficiency improvement options. Small business owners and operators are often focused on the core aspects of running their businesses, such as sales, payroll obligations, productivity, and similar concerns. Energy usually represents a small portion of operating costs and most small business owners rank energy management low on their priority list. Having said that, Duke Energy

Carolinas' commercial and industrial ("C&I") Smart$aver program is available to all non-residential customers. In our recent experience in Ohio, small and medium sized businesses represented over 40% of the C&I program participants.

To address the unique challenges of the small and medium business market, Duke Energy Carolinas is proactively contacting our customers to update contact information and to subscribe customers to our newsletter where energy efficiency is highlighted. We have invited members of the small business community in South Carolina to our stakeholder meetings and have welcomed their participation and ideas on our programs. The Company's records show that Mr. Knapp has been invited to these meetings. Our experience indicates that obtaining customer feedback on program and marketing design increases the likelihood that these customers will see value in the programs and then choose to participate.

Q. PLEASE ADDRESS WITNESS GILLIGAN'S CONCERNS SURROUNDING THE NEED OF ENERGY SERVICES PROVIDERS FOR INFORMATION ON THE COMPANY'S PROGRAMS IN ORDER TO SERVE THE MARKET FOR ENERGY EFFICIENCY PRODUCTS DUKE ENERGY CAROLINAS CREATES.

A. Duke Energy relies on a strong service provider network to successfully deliver many of its programs. Duke Energy Carolinas fully recognizes that energy services providers are a key channel in reaching the customer. As a result, the Company not only communicates directly to the providers, but also has Field Representatives whose responsibility it is to assist the providers as needed.

Duke Energy's most recent rollout of Ohio energy efficiency programs demonstrates how the Company will insure that service providers are fully versed in the details of the programs as it rolls out programs in South Carolina. Direct mail is utilized to inform all vendors of the program availability and also directs them to a web site, which has complete instructions including available rebates, application and payment process and contact names and phone numbers. In addition, Duke Energy hosted an information session (early in the morning so that it did not interfere with the business day) where all vendors were invited to learn about the programs and the processes as mentioned above along with the opportunity to ask questions. The Ohio information session had over 150 vendor companies attend and feedback was very positive. As a result of these implementation steps, Duke Energy Ohio was in the market with its prescriptive incentive programs within two weeks of regulatory approval and exceeded the first six months projected impacts goal.

Q. COULD THE COMPANY'S PROPOSED ENERGY EFFICIENCY PROGRAMS RESULT IN FUEL-SWITCHING AS PIEDMONT WITNESS SKAINS ALLEGES?

A. While the intent of the Company's energy efficiency programs is not to induce fuel switching, some may occur. For example, the Low Income Services program proposes to offer incentives for high efficiency heat pumps in low income homes. The home may have gas or electric space heating prior to participation in the program. A customer with gas space heating may choose to participate in the Duke Energy Carolinas' programs and replace the gas furnace with a high efficiency heat pump. It should be clearly noted, however, that the Company's

proposed incentive programs do not subsidize the initial cost of the basic appliance, such as a furnace or heat pump. Duke Energy Carolinas is only providing incentives to encourage customers to raise their level of efficiency from a standard level to a higher one. Thus, the total energy supply chain cost does not play a role in this incremental analysis.

Q. WILL DUKE ENERGY CAROLINAS' PROGRAMS LEAD TO UNFAIR COMPETITION?

A. No, I do not believe so. First, that customer may have been planning to switch to electric heating anyway to avoid high natural gas bills. By participating in the program, we have ensured that electric heating is a high efficiency system, reducing the customer's bills and the energy usage on Duke Energy Carolinas' system. While it is theoretically possible that some customers may switch fuels, the overall impact of the program is expected to be reduction in energy usage, *i.e.*, there are greater savings from the sum of all the customers who are incentivized to move to more efficient electric heating than the increase from the sum of all of the customers who switch from gas to electric due to the program. Also, it is not clear to me why Piedmont's response would not be to have a competing offer available to the customer to choose a high efficiency gas furnace. Duke Energy Carolinas believes our customers should have a choice and that choice should promote more efficient use of electric and gas.

Q. DOES THAT CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?

A. Yes, it does.